

Remarks

Claims 1-27 are pending in this application. Claims 1-27 are rejected. No new matter has been added. It is respectfully submitted that the pending claims define allowable subject matter.

The specification has been objected to for listing docket numbers in paragraph 0001. Applicants have amended paragraph one to delete the docket numbers and add the corresponding U.S. Patent Number and U.S. Application Serial Numbers for each. Accordingly, Applicants submit that the objection should be withdrawn.

Claims 1-27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Peterson et al. (U.S. Patent 6,050,945), hereafter Peterson in view of Moore et al. (U.S. Patent 6,511,432), hereafter Moore. Applicants respectfully traverse this rejection for at least the reasons set forth below.

Independent claim 1 recites transceiver circuitry for ultrasound transducer elements including, among other elements “receive signal blocking circuitry coupled between the transmit section input and the transmit section output” and “transmit signal blocking circuitry coupled between the receive section input and the receive section output including a coupling capacitor adapted to decouple the receive section during operation of the transmit section.” Independent claim 21 recites a method for transmitting and receiving signals through ultrasound transducer elements including, among other elements “coupling a transmit pulse through a transmit section input, a transmit section output, and receive signal blocking circuitry coupled between the transmit section input and the transmit section output” and “coupling a receive signal through a receive section input, a receive section output, and transmit signal blocking circuitry coupled between the receive section input and the receive section output, the transmit signal blocking circuitry including a coupling capacitor adapted to decouple the receive section input during operation of the transmit section input and transmit section output.”

Each of independent claims 1 and 21 includes receive signal blocking circuitry coupled between a transmit section input and a transmit section output, and transmit signal blocking circuitry coupled between a receive section input and a receive section output. The Peterson reference only describes transmit/receive circuitry (namely, a transmit/receive switch circuit) between the transmit stage and the receive stage. Thus, a single switching circuit is provided between the transmit portion and the receive portion of the Peterson system. In contrast, not only does the claimed invention include blocking circuitry at each of the transmit section and receive section, but the blocking circuitry at each is provided between the input and output of each of the transmit and receive sections. None of the embodiments described or shown in the Peterson reference provide such blocking circuitry in each of the sections and provided as claimed. Applicants also submit that the Moore reference fails to make up for these deficiencies. Accordingly, Applicants submit that claims 1 and 21 are allowable.

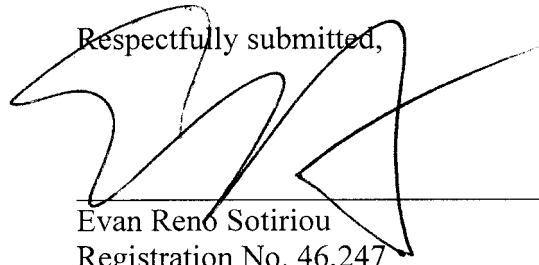
Moreover, independent claim 10 recites an ultrasound probe including, among other elements “a transmit section output coupled through receive signal blocking circuitry and a coupling capacitor to transmit transducer elements comprising a transmit aperture”, “a receive section input coupled to a multiplexed transducer element selected from the transmit transducer elements and adapted to be decoupled during operation of the transmit section” and “wherein the transmit section output drives the multiplexed transducer element during ultrasound beam transmission and where the receive section input receives a reception signal from the multiplexed transducer element during ultrasound beam reception.” Applicants submit that claim 10 is allowable for at least the reasons discussed in more detail above. Further, Applicants submit that the Peterson reference does not describe a multiplexed transducer element arrangement. There is no multiplexing arrangement described in the Peterson reference as recited in claim 10. Applicants also submit that using the transmit/receive switching configuration described in the Peterson reference with a multiplexed transducer element arrangement would result in a system that would not allow for the use of all acoustic channels for transmitting and receiving. Accordingly, Applicants submit that claim 10 is allowable.

Additionally, claims 2-9 depend from claim 1, claims 11-20 depend from claim 10 and claims 22-27 depend from claim 21. Applicants submit that these claims recite additional subject matter not anticipated or rendered obvious by the cited references. Moreover, claims 2-9, 11-20 and 22-27 are likewise allowable based at least on the dependency of these claims from the independent claims.

Furthermore, there may be additional reasons other than those described herein or herebefore that claims 1-27 are each patentable over the cited references. Without waiver of such additional reasons, Applicants reserve the right to argue such reasons hereafter.

In view of the foregoing, it is respectfully submitted that the cited references neither anticipate nor render obvious the claimed invention and the pending claims in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited. Should anything remain in order to place the present application in condition for allowance, the Examiner is kindly invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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